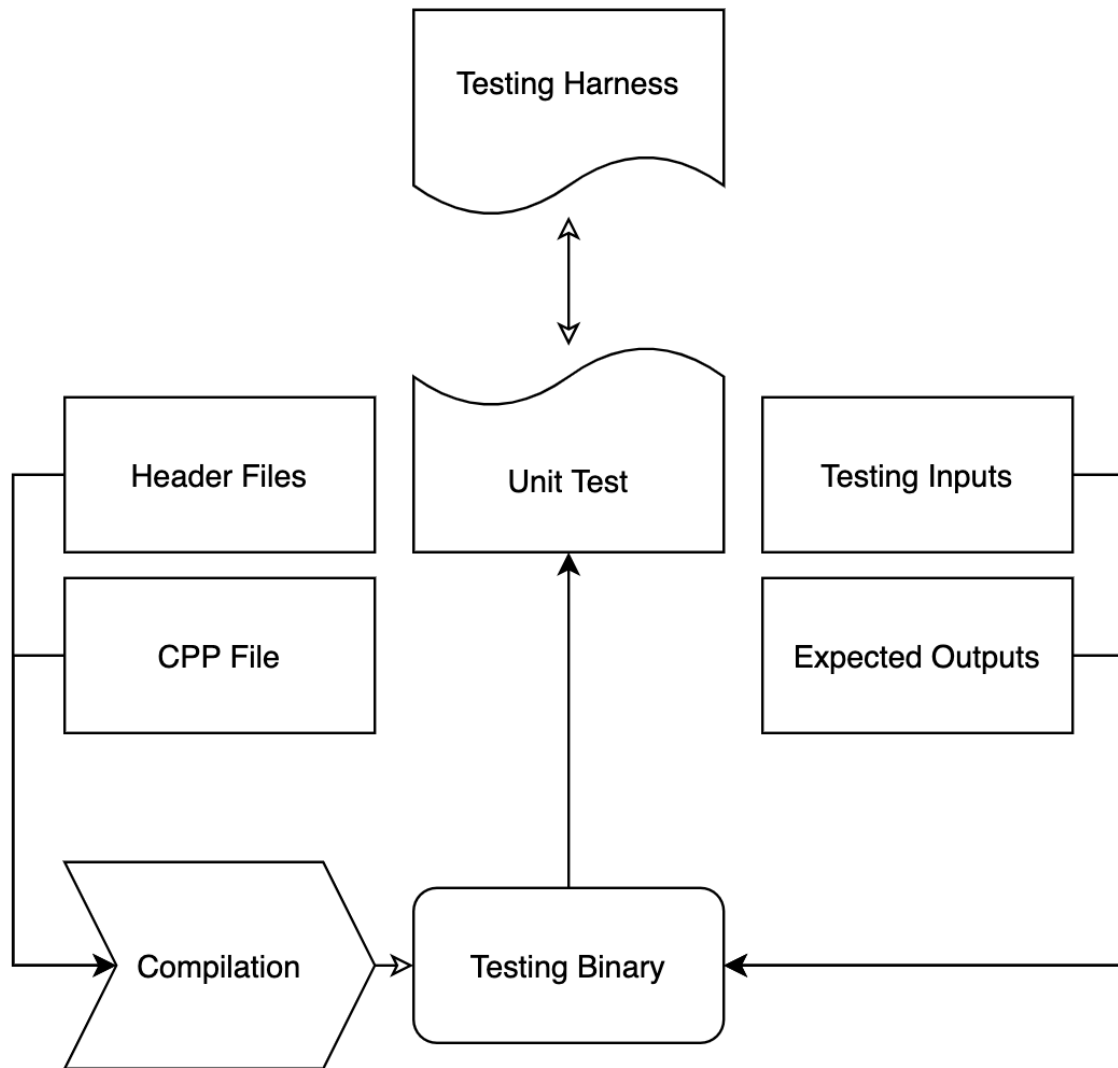# Testing Plan

This flow chart outlines the concept of our testing plan.

The testing harness runs each unit test separately.

Each unit test compiles the required header and cpp files (done with a makefile?) into a testing binary.

The unit test pipes the test inputs into the binary, runs the test to produce an output file, and then compares the produced output to the expected output file.

This result is then reported back to the testing harness.

Adult Class Testing:

We start with the adultTest.cpp file:

```cpp
#include "../../src/classes/person.h"
#include "../../src/classes/adult.h"
#include <iostream>

using namespace std;

int main(){
  // Initialising and setting variables.
  string name;
  int age;

  cout << "Please input a name: ";
  cin >> name;
  cout << "Please input an age: ";
  cin >> age;

  // Creating an adult object.
```

```
  adult testAdult(name, age);

  // Testing getters.
  cout << "name = " << testAdult.getPersonName() << endl;
  cout << "age = " << testAdult.getAge() << endl;

  // Testing setters.
  string newName;
  cout << "Please enter a new name: ";
  cin >> newName;
  testAdult.setPersonName(newName);
  cout << "name = " << testAdult.getPersonName() << endl;

  int newAge;
  cout << "Please enter a new age: ";
  cin >> newAge;
  testAdult.setAge(newAge);
  cout << "age = " << testAdult.getAge() << endl;

  // Testing Working with children number.
  string workingWithChildren;
  cout << "Please enter a working with children number: ";
  cin >> workingWithChildren;
  testAdult.setWorkingWithChildrenNumber(workingWithChildren);
  cout << "Working with children number = " << testAdult.getWorkingWithChildrenNumber() << endl;

  // Testing Contact information.
}
```

This cpp file is compiled and then executed with a shell script:

```
# Compile.
echo Compiling adultTest.cpp
g++ ../../src/classes/person.cpp ../../src/classes/adult.cpp adultTest.cpp -o adultTest -Wall -std=c++11
echo Finished Compiling

# Test.
echo Testing adult

# Standard Test.
./adultTest < inputs/adultIn-01.txt | diff - outputs/adultOut-01.txt

# Produce an output file.
#./adultTest < inputs/adultIn-01.txt > adultOut.txt

# Take user Input.
#./adultTest  > adultOut.txt
# rm adultOut.txt

# Cleanup
#rm adultTest
echo Finished Testing adult Class
```
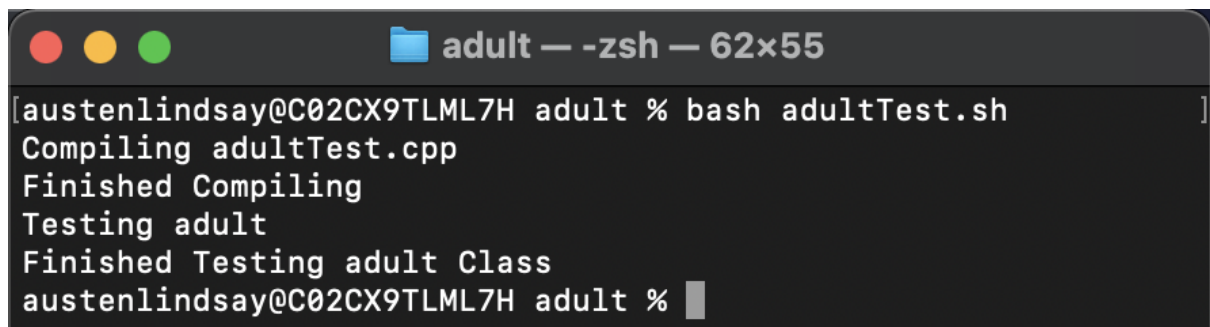
Allowing us to test the class when changes are made to it without needing to manually re write test code.

```
[austenlindsay@C02CX9TLML7H adult % bash adultTest.sh        ]
Compiling adultTest.cpp
Finished Compiling
Testing adult
Finished Testing adult Class
austenlindsay@C02CX9TLML7H adult % █
```